

## ABOUT THE SANCTUARY

Olympic Coast National Marine Sanctuary spans 3,189 square miles of marine waters off the rugged Olympic Peninsula coastline. The sanctuary extends 25 to 50 miles seaward, covering much of the continental shelf and several major submarine canyons.

The sanctuary protects a productive upwelling zone - home to rich marine mammal and seabird faunas, diverse populations of kelp and intertidal algae, and thriving invertebrate communities. The sanctuary is also rich in cultural resources, with over 150 documented historical shipwrecks and the vibrant contemporary cultures of Makah, Quileute, and Hoh Indian Tribes, and Quinault Nation.

## OFFICE REPORT

### OLYMPIC COAST NATIONAL MARINE SANCTUARY NEWS AND PROGRAM UPDATES

Organized based on the Olympic Coast National Marine Sanctuary (OCNMS or sanctuary) management plan priority areas.

### TREATY TRUST RESPONSIBILITY

#### Sanctuary and Makah Tribe Consult

Olympic Coast National Marine Sanctuary and the Makah Tribe conducted a government to government meeting to discuss the sanctuary's permitting program and consultation protocols.

### ACHIEVE EFFECTIVE AND COORDINATED MANAGEMENT

#### West Coast NOAA Offices Regional discuss Collaboration

Leadership from National Marine Fisheries Service (NMFS) West Coast Region, met with west coast sanctuary leadership to discuss NMFS' new organizational structure, how to effectively communicate within the

revised structure, and areas of mutual interest. NMFS West Coast Region underwent reorganization over the past year to provide more integration across programs and to provide better services to the public. Areas of mutual interest discussed at the meeting included identification and protection of critical habitats, recovery of species listed under the Endangered Species Act that occur in west coast sanctuaries, assessing and responding to threats to marine fish and wildlife, watershed planning and protection, and emerging issues such as the need to better characterize sound in the ocean and understand its effect on marine fish and wildlife. NMFS and OCNMS have committed to yearly meetings to assess our working relationship.

#### Strong Partnership between OCNMS and U.S. Coast Guard (USCG) 13th District Continues

OCNMS leadership and staff met with RADM Gromlich, Commander of 13th District USCG and his staff to discuss collaboration across multiple aspects of our respective organization's mission and operations. As governed by a Memorandum of Agreement, the two organizations meet annually to review progress and identify future strategic priorities including vessel traffic monitoring, operational protocols, investigations of incidents within OCNMS, enforcement patrols and reporting, and USCG participation on OCNMS Advisory Council. OCNMS has enjoyed a good working relationship with USCG 13th District, with strong support from the highest levels of command, especially critical as USCG staff rotate out every two to three years.

#### Regional Marine Spatial Planning for West Coast

Carol Bernthal and George Galasso attended a meeting hosted by John Stein, Regional Co-Lead, to discuss West Coast Regional Marine Planning. Meeting participants which included representatives from Quinault Nation, Quileute Tribe, Makah Tribe, Hoh Tribe, and Washington State agencies learned about outreach efforts to date on the development of regional marine planning efforts for the west coast and had extensive discussions on options for the potential launch of a West Coast Regional Planning Body as called for in the National Ocean Policy. The group also discussed options for advancing current efforts led by Washington State which is currently creating an outer coast marine spatial plan as called for in state legislation. These discussions will continue as at a special session in January as part of the West Coast Ocean Summit.

## **Olympic Coast Reports Progress on Management Plan Implementation**

OCNMS completed their fourth annual report on the implementation of the OCNMS 2011 Management Plan. The report covers the period from October 1, 2013 through September 30, 2014, and includes implementation highlights, performance measures and reports on progress on each of the twenty action plans. The report was provided as background for a joint meeting of the Olympic Coast Intergovernmental Policy Council and the OCNMS Advisory Council in November 2014. All reports can be reviewed at <http://olympiccoast.noaa.gov/management/management101.html#effectiveness>.

## **CONDUCT COLLABORATIVE RESEARCH, ASSESSMENTS AND MONITORING TO INFORM ECOSYSTEM-BASED MANAGEMENT**

### **Olympic Coast Hosts Meeting with University of Washington Applied Physics Laboratory and NOAA's HAB Program**

OCNMS hosted a meeting with researchers from University of Washington's Applied Physics Laboratory and NOAA's Northwest Fisheries Science Center's Harmful Algal Blooms Program to discuss an automated sampler to be installed on the Northwest Association of Networked Ocean Observing System (NANOOS) oceanographic buoy, which is deployed in sanctuary waters. The Cha Ba buoy provides real-time data for a variety of parameters relevant to biological, physical and chemical properties of marine waters off the outer coast of Washington. Installation of the automated sampler will provide real-time data on presence and density of potentially harmful algae plankton as well as concentrations of toxic agents in the plankton. These data could enhance the predictive capacity for shellfish poisoning events. This work is also collaboration with Quileute Tribe and Quinault Indian Nation, which conduct shore-based harmful algal bloom monitoring. An internship through the Northwest Indian Fisheries College and summer programs for outer coast high school students are additional outreach aspects of this project.

### **Olympic Coast Video archived in National Database for Deep-Sea Corals and Sponges**

Over several years OCNMS, with partners, have been investigating deep sea coral and sponge communities and associated habitat. These investigations have resulted in many hours of video from remotely operated vehicles (ROV), habitat maps and data analysis. OCNMS has been working with NOAA Fisheries Deep Sea Coral Research and Technology Program (DSCRTP) and the National Center for Coastal Ocean Science (NCCOS) Deep-Sea Coral Ecology Laboratory to archive both the video and the analysis of this multi-year effort. Matt Dornback from the National Coastal Data Development Center conducted a site visit at the OCNMS office this week to review and make copies of the sanctuary video library. Many hours of digital video, numerous images, and survey reports will be transferred to the Deep Sea Coral Research and Technology Program's national data archive, which will serve for video backup storage and a portal for public access to the video.

## **IMPROVE OCEAN LITERACY**

### **Sanctuary Staff Provide Field Sampling Experience for Oceanography Students and Career Panel**



Students in Dr. Ian Miller's Oceanography class at Peninsula College joined Olympic Coast National Marine Sanctuary staff for a marine sampling trip on the sanctuary's research vessel *RV Tatoosh*. Three separate groups of students were taken out on the water in Port Angeles Harbor where students were introduced to various sampling equipment, protocols and data recording conventions before conducting water and sediment sampling and measurements. Justin Ellis, OCNMS Marine Operations Officer, provided a safety briefing and demonstrated basic vessel operating procedures. Liam Antrim and Danny Palmer were along to train and supervise students in field collection of samples and data.

OCNMS staff also joined Dr. Ian Miller's Oceanography class during a career day consisting of scientists, the Executive Director of local Feiro Marine Life Center, a retired USCG member with Antarctic experience, and a Puget Sound pilot representing a commercial marine career path. Each panel member gave a brief background of education and work experience. The students learned how diverse and multi-faceted a marine-related career can be and how careers can evolve over time, allowing for different skillsets to be acquired.

### **Olympic Coast Sanctuary Honors Volunteers**

OCNMS hosted the annual Olympic Coast Discovery Center Volunteer Awards Ceremony on November 14. The event was held jointly with Feiro Marine Life Center and their volunteers for the second consecutive year. Olympic National Park Coastal Interpretive Ranger Megan Juran presented on visitor experiences based at Rialto Beach during the 2014 season. Karlyn Langjahr delivered an overview of 2014 season



highlights and presented awards and certificates to volunteers. Jim Jewell was awarded Top Volunteer for 2014 clocking in 195 hours, and Carol Turner earned Top New Volunteer with 137 hours of service. Four volunteers received honorable mention for more than 100 hours contributed in 2014: Pat Nachreiner, Sue Griffith, Bruce Ferguson, Gerri Ferguson. All volunteers were celebrated with several OCNMS staff and joined in the potluck dinner.

### **Olympic Coast National Marine Sanctuary Supports Teacher Professional Development at NatureBridge Olympic**

Olympic Coast National Marine Sanctuary education staff supported a teacher professional development weekend at NatureBridge Olympic in November. OCNMS provided content and outreach materials for discussions on ocean acidification and climate change. Hands-on activities for teachers to implement in the classroom and ideas and lessons to increase literacy of these topics will be available to eight West coast teachers and 12 NatureBridge Board members on November 8. Teacher professional development workshops allow OCNMS to work directly with classroom teachers to integrate OCNMS and other Ocean Literacy programs into existing school curricula.

### **Sanctuary Education Participates in Seattle Aquarium's Annual Family Discover Science Weekend**



OCNMS education staff participated in Seattle Aquarium's Discover Science weekend November 8-9. Discover Science weekend offers families an opportunity to meet with regional marine scientists, researchers and educators to learn about ocean and marine science and conservation. Olympic Coast provided outreach to visitors with an interactive plankton identification table, and discussion on marine food web systems, importance and impacts. Visitors viewed plankton samples under both dissecting microscopes and compound microscopes, along with phytoplankton and zooplankton identification keys. Information on Olympic Coast National Marine Sanctuary was available. Throughout the event, over 5,500 visitors took advantage of the opportunity to explore ocean and marine research. Outreach and activities were also available from OCNMS, NOAA Fisheries, Washington Department of Fish and Wildlife, United States Coast Guard, University of Washington, King County, and Seattle Aquarium scientists.

### **Feiro Marine Life Center Volunteers receive Training on Olympic Coast National Marine Sanctuary**

Volunteers in Feiro Marine Life Center's fall 2014 training course spent a session on November 15 with OCNMS education staff. Volunteers learned how OCNMS uses education, research and management as tools for ocean conservation and management. They gained an overview on the sanctuary, including the historical background of Olympic Coast and the natural organisms, habitats and ecosystem processes within OCNMS that make up a highly productive and diverse marine protected environment. Nicole Harris also shared sanctuary research programs and regulations with 10 trainees, followed by a tour of Olympic Coast Discovery Center, where they had an opportunity to explore. Feiro Marine Life Center is a non-profit partner of OCNMS that offers exhibits complimenting the sanctuary's visitor center.

### **NOAA Marine Debris Topics presented at Peninsula Community College**

Heidi Pedersen, OCNMS Citizen Science Coordinator, presented relevant marine debris topics to Dr. Ian Miller's Introduction to Oceanography Course at Peninsula Community College in Port Angeles, WA. Students also received hands-on experience by helping to sort and tally debris data from two study sites in Olympic Coast National Marine Sanctuary.

### **Olympic Coast National Marine Sanctuary concludes NOW Science Fall Programs**

OCNMS education staff completed the North Olympic Watershed (NOW) Science Program for local 4th grade students in partnership with Feiro Marine Life Center. Ten classes from six schools in Port Angeles and Sequim, WA participated in ocean science education through classroom visits and field investigations. Through hands-on activities and classroom presentations students learned about our sanctuary and marine environment, local marine mammals, invertebrate feeding techniques, plankton and the marine food web, marine debris, and micro-plastics. Students completed a pre- and post-lesson survey, showing an 88.5% overall increase in awareness and knowledge of topics discussed, and developed individual action plans to reduce the impact of marine debris. The NOW Science programs are developed to complement Next Generation Science Standards. Four additional 4th grade classes have chosen to schedule their lessons in the spring.

### **Underwater Dreams Community Screening at Peninsula College**

Feiro Marine Life Center, Peninsula College and Washington Sea Grant, in partnership with OCNMS, provided a free community screening of Underwater Dreams on January 9th, 2014. Underwater Dreams is an inspiring film telling the story of four high school students from Arizona participating in college level national competition for Remotely Operated Vehicles (ROVs), their successes, and their legacy to their community. OCNMS staff and Feiro Marine Life Center provided hands on activities and video exhibits of ROVs and ROV underwater research conducted in sanctuary waters. Following the screening

a panel of middle and high school students were asked questions from a moderator and the audience about their experience and interest with remotely operated vehicles, engineering, teamwork, and ocean conservation.

### **Marine Debris Connects Communities across the Pacific**

CoastSavers coordinator, Jon Schmidt, provided a presentation on his recent trip to Japan to attend an international symposium hosted by the Japan Environmental Action Network or JEAN. Jon was invited to Japan to speak on tsunami debris in Washington State and local, volunteer efforts to clean shoreline debris. He returned with personal stories of the enormous impact of the tsunami on local residents and a better understanding of the scale of the marine debris issue in the western Pacific. Jon's talk was sponsored by Olympic Coast National Marine Sanctuary and Feiro Marine Life Center.

## **CONSERVE NATURAL RESOURCES IN THE SANCTUARY**

### **CoastSavers Strengthens Capacity for Outer Coast Debris Cleanup Efforts**

CoastSavers Coordinator, Jon Schmidt, announced receipt of financial support from Washington State Emergency Management Division to support volunteer coastal cleanups in 2015 and 2016. The funds originated as a gift from the Japanese government to the U.S. government to address issues associated with debris mobilized by the Japan tsunami in March 2011. A portion of these funds were awarded to each state bordering the eastern Pacific Ocean. This award recognizes CoastSavers as an effective organization in efforts to mitigate impacts of marine debris, including materials originating from the Japan tsunami. CoastSavers also received financial support from Olympic Coast National Marine Sanctuary to coordinate debris removal from remote shoreline areas by Washington Conservation Corps (WCC) crews. Two crews comprised of military veterans are fully funded by the Washington legislature through June 2015. Jon Schmidt will coordinate with outer coast tribes and Olympic National Park to schedule WCC crews and target their efforts to locations of greatest need.

### **Participation in Northwest Area Contingency Plan Annual Summit**

OCNMS participated in the 4th Annual Northwest Area Contingency Plan (NWACP) Annual Summit. The NWACP is the primary plan that outlines how entities in the Pacific Northwest, including the sanctuary, would respond to an oil or hazardous materials spill. The plan is continuously being improved and updated. Participants included spill response organizations, industry, government agencies and other interested parties. These meetings give the spill response community an opportunity to come together to discuss emerging risks and technologies, and to collaborate to make improvements in response activities.

### **Sanctuary Participates in Salish Sea Oil Spill Risk Workshop**

Olympic Coast National Marine Sanctuary and NOAA Emergency Response Division staff participated in a Salish Sea Vessel Oil Spill Risk Assessment and Management Workshop in Bellingham, WA co-sponsored by Washington Department of Ecology and Puget Sound Partnership. The technical workshop focused on managing oil spill risk in the geographic region of the Salish Sea, including the northern Puget Sound and Straits of Georgia areas. The purpose of the workshop was to connect assumptions, findings, and recommendations from existing Salish Sea studies that can be used to develop a consolidated list of actionable recommendations and methods to enhance public safety and environmental protection. Workshop participants included representatives from a broad spectrum of governmental organizations from Washington State, the United States, British Columbia, Canada, Tribal Nations, First Nations, marine industry, environmental advocacy groups, and other interested stakeholders.

## **SANCTUARY PERMITTING**

### **Issued Permits and Resolved Applications**

**OCNMS-2014-003** – Joe Evenson, Washington Department of Fish and Wildlife (WDFW)

**Project Title:** WDFW/PSEMP Annual Winter Aerial Survey of Marine Birds and Mammals

**Permitted Activity:** low altitude overflight within the overflight restriction zone of Olympic Coast National Marine Sanctuary

**Project Location:** over waters of Olympic Coast National Marine Sanctuary between Koitlah Point and Cape Flattery

**Permit Duration:** 5-years, through December 2019

**Comment:** This survey effort covers the Salish Sea area, and the sanctuary permit addresses only the portion of those surveys within the sanctuary.

**OCNMS-2010-006-A1** – Nicholas Adams, NOAA, Northwest Fisheries Science Center

**Project Title:** Deployment of Davis/CODE Argos GPS drifting buoys

**Permitted Activity:** deployment of up to 6 surface drifting buoys per year in the area of the Juan de Fuca eddy

**Project Location:** western Strait of Juan de Fuca, north of 48° 10' latitude



**Permit Duration:** 5-years, through December 2019

**Comment:** This is an amendment to provide continued support for harmful algal bloom studies in the Juan de Fuca eddy area. Although few drifter deployments were conducted under the original permit, this amendment provides authorization for future field work if a survey is planned or opportunity arises.

**Pending Permit Requests**

None

## **LEARN ABOUT YOUR SANCTUARY / NATURAL HISTORY**

### **Citizen Scientist Volunteers Report Cassin's Auklet Wreck**



Beginning in late October 2014 and through present (January 2015), Coastal Observation and Seabird Survey Team (COASST) members and staff witnessed an uptick in Cassin's Auklets. These small, fist-sized birds have a dark bill (pale spot at base), dark back and wings and white belly. Fresh specimens show blueish feet characterized by 3 webbed toes and no hind toe. In collaboration with West Coast beached bird partners Beach Watch in San Francisco (Gulf of Farallones National Marine Sanctuary), BeachCOMBERS in Monterey Bay (of Monterey Bay NMS), and British Columbia Beached Bird Survey it is known that the event extends from Washington State south to Monterey Bay. Preliminary estimates suggest that tens of thousands of these birds are washing ashore, at rates 10-100 times "normal." To date, the majority of these birds are young-of-the-year, hatched in 2014. High breeding success put more than usual numbers of

young-of-the-year on the water and may be contributing to the increase in normal seasonal mortality during this time of year. Cassin's Auklet colonies in British Columbia (80% of the North American population) fared well this season with one of the highest reproductive output recorded from decades of monitoring, resulting in many young-of-the-year in the Pacific Ocean this season. Storm activity on November 15 and 16 preceded a wave of beaching which is not unusual; the combination of young birds and difficult conditions predictably lead to wrecks, like those that are common most years at the end of a good Common Murre breeding season. Necropsies on some individuals indicated emaciation and starvation as the proximate cause of death. There is currently no sign of disease, poison, or other contagion. Environmental conditions, including a shift in prey availability, and/or location are distinct possibilities exacerbating this event.

### **Seafloor Methane Deposits Linked with Increased Treat of Global Warming**

A survey conducted in October 2014 off the outer Washington coast investigated methane hydrate deposits trapped in ice buried in the ocean seafloor beds, maintained by low temperatures and moderate pressures. Such deposits are ubiquitous in sediments at continental margins worldwide and represent one of the largest reservoirs of organic carbon on Earth. Dr. Evan Solomon, from the School of Oceanography, University of Washington who led this survey, called methane hydrates a very large and fragile reservoir of carbon. The study focused on the 480-520m depth contour on the upper continental slope off Washington in a region of the shelf called the Cascadia margin. Warming of oceanic waters could destabilize gas hydrate deposits and trigger the release of methane, a significant greenhouse gas. Potential impacts include increased ocean acidification and hypoxia, collapse of continental slope areas and production of coastal tsunamis, and release of methane to the atmosphere. Because some sediment cores stations were within Olympic Coast National Marine Sanctuary, a sanctuary permit was required. Researchers cautioned that research is needed to better understand the scope of the problem.

### **Sea Turtles Strand on Pacific Northwest Shores**

A few olive ridley sea turtles have been found stranded on the shores of Oregon and the Long Beach Peninsula in Washington. Unseasonably warm waters or storms may have encouraged these turtles to roam north of their usual distribution between Peru and California. These stranded turtles found local waters too cold and had reduced internal temperatures, akin to hypothermia.

## **REGIONAL / NATIONAL MARINE SANCTUARY SYSTEM ONMS NEWS**

### **NOAA Ship *Rainier* Collecting Hydro Data in Strait of Juan de Fuca**

NOAA Ship *Rainier* is conducting hydrographic surveys in the areas around Protection Island and Lopez Island, Washington, as part of a multi-year project to update the nautical charts of the waters from Port Angeles to Port Townsend and north to Bellingham, including the San Juan Islands. The survey area is a critical priority, since it is near three high-density traffic

lanes transited by large commercial vessels. Some of the depth measurements of current charts were collected in surveys conducted from 1940 to 1969.

### **National Marine Sanctuaries Featured at BLUE Ocean Film Festival**

NOAA's Office of National Marine Sanctuaries was a sponsor and visible presence at this year's BLUE Ocean Film Festival and Conservation Summit in St. Petersburg, Florida from November 3-9. Sanctuary leadership and staff participated in the festival, including an opening-day event co-hosted by Google and Catlin Seaview Survey announcing new 360-degree underwater images from the Aquarius Reef Base in NOAA's Florida Keys National Marine Sanctuary. On November 5 ONMS Director Daniel J. Basta led a panel of ocean champions including Sylvia Earle, Bob Ballard, Karen Meyer and William Hogarth on the new sanctuary nomination process that also featured the "Earth is Blue" campaign. Both events were filled to capacity of more than 250 attendees. Sanctuary films in the festival included "Blue Journey American Samoa", "Window in the Waves" and Jean-Michel Cousteau's "Swain's Island", which won an award in the "Cultural Connections" category.

### **ONMS Leads NOAA Delegation to World Parks Congress**

NOAA staff from the Office of National Marine Sanctuaries, Office of International Affairs, Office of Intergovernmental Affairs and NOAA Fisheries Pacific Islands Regional Office joined more than 5,000 delegates from 160 countries at the VI World Parks Congress in Sydney, Australia from November 12-19. The Congress focused on inspiring solutions for people, parks and the planet. It featured hundreds of sessions, dialogues, demonstrations and debates on the role and future of protected areas. Staff from ONMS' National Marine Protected Areas Center co-led the Marine Cross-Cutting Theme of the Congress with the Great Barrier Reef Marine Parks Authority, Parks Australia, IUCN's Marine and Polar Program and the World Commission on Protected Areas – Marine. Marine protected areas were a major focus of the Congress, with over 150 sessions and events on coastal and marine parks, and NOAA staff playing an active role in many of these sessions. The Congress also produced a "Promise of Sydney" that describes a vision for the future of protected areas over the coming decade, including separate statements for each of the Congress streams and cross-cutting themes. The Marine Theme "Promise" outlines key challenges, opportunities, recommendations and interim targets for the global protected area community and its partners. Among the key recommendations were a renewal and expansion of a commitment from the previous World Parks Congress in Durban, South Africa addressing marine protected area coverage. The new recommendation is for 30% of each ocean habitat to be fully protected. NOAA will continue to be engaged in follow up from the Congress.

### **Cordell Bank and Gulf of Farallones Sanctuaries Release Expansion FEIS and Final Management Plans**

The Notice of Availability of the Cordell Bank and Gulf of the Farallones Expansion Final Environmental Impact Statement (FEIS) published in the Federal Register on December 19, the result of two years of teamwork on this proposal. The FEIS and the final management plans for the two sites are posted on the internet at: [http://farallones.noaa.gov/manage/expansion\\_cbgf.html](http://farallones.noaa.gov/manage/expansion_cbgf.html). Next steps are to rollout the agency decision on this project in late January, after the planned signing of the Record of Decision and publication of the final rule in the Federal Register (to take place no less than 30 days after the Federal Register notice about the FEIS). Once published, the final rule would become effective after a review period of 45 days of continuous session of Congress. NOAA's action would expand the boundaries of GFNMS from approximately 1,282 square miles to approximately 3,295 square miles. Cordell Bank National Marine Sanctuary would expand from approximately 529 square miles to approximately 1,286 square miles. The Gulf of Farallones National Marine Sanctuary expansion area, including both state and federal waters (not including rivers and estuaries), would extend from Bodega Bay in Sonoma County to Manchester Beach, at Latitude 39 degrees North, a few miles north of the Point Arena Lighthouse in Mendocino County. The expansion area would include the nutrient-rich ocean upwelling zone originating off Point Arena, which is one of the most intense and productive upwelling in North America, and the waters flowing south from this upwelling to GFNMS and CBNMS. The CBNMS expansion, all in federal waters, would extend west and slightly north of the current CBNMS boundary to protect important subsea features such as Bodega Canyon.

### **NOAA Appoints 10 New Members to MPA Federal Advisory Committee**

NOAA has appointed ten new members to the Marine Protected Area Federal Advisory Committee (MPA FAC), which advises both NOAA and the Department of the Interior on ways to strengthen and connect the nation's MPAs and MPA programs. It is made up of 20 representatives of diverse stakeholder perspectives. The new members join 10 continuing members, and meet virtually and in person. For details on the new members, and updates on upcoming meetings, visit <http://marineprotectedareas.noaa.gov/fac/membership>.

### **National Marine Sanctuary Volunteers Contribute 140,000 Hours in FY14**

During FY14, NOAA's Office of National Marine Sanctuaries received support from 10,284 volunteers around the United States helping to protect and conserve America's underwater treasures. Volunteers participate in a wide variety of activities including diving, whale identification, beach cleanups, water quality monitoring, collecting field observations and surveys,

acting as educational docents at visitor center, and wildlife monitoring. These individuals worked 140,370 hours over the fiscal year in the areas of research, monitoring, enforcement, education and outreach. Their work is the equivalent of \$3.15 million dollars of in-kind support, or roughly the same value and time of 70 full-time employees. Of these, 5,886 specifically supported national marine sanctuary citizen science efforts, such as Sanctuary Ocean Count and Beach COMBERS and COASST, with 63,084 hours, which is equivalent to \$1.4 million dollars, or the time of approximately 31 FTEs. For more information about the National Marine Sanctuary System volunteer program, visit [http://sanctuaries.noaa.gov/involved/volunteer\\_future.html](http://sanctuaries.noaa.gov/involved/volunteer_future.html).

## MARINE-RELATED NEWS COVERAGE

### **Students Gather Information from Changing Elwha River Mouth**

A group of local students at North Olympic Peninsula Skills Center sets out to at the mouth of the Elwha River Text to conduct survey of the beached birds, sediment and marine debris. They report their findings to Olympic Coast National Marine Sanctuary.

<http://www.peninsuladailynews.com/article/20141112/NEWS/311129993/students-gather-information-from-changing-elwha-river-mouth>

### **Port Angeles' Feiro Marine Life Center Hopes to Grow Bigger at City Pier**

Feiro's Marine Life Center officials are establishing a long-range plan for a new, larger facility at the non-profit's current City Pier site. The plan calls for construction possibly beginning in 2021.

<http://www.peninsuladailynews.com/article/20141112/news/311129981/port-angeles-8217-feiro-marine-life-center-hopes-to-grow-bigger-at>

### **Traces Of Fukushima Radioactivity Detected In West Coast Waters**

An oceanography institute announced Monday that trace amounts of radioactivity from Japan have been detected off the West Coast. Radiation experts say the low levels of radioactivity measured do not pose a health threat here.

<http://www.kplu.org/post/traces-fukushima-radioactivity-detected-west-coast-waters>

### **Sightings of 'Exotic' Transient Orcas on the Rise in Puget Sound**

Northwest whale watchers say they are witnessing a historic boom in sightings of seal-eating transient orcas in the inland waters of Washington state and British Columbia, including a mysterious group of rarely seen whales that usually spend their time in the ocean off the California coast.

<http://www.komonews.com/news/local/Sightings-of-exotic-transient-orcas-on-the-rise-in-Puget-Sound-282750871.html>

### **Olympic National Park Begins its Monthly Speaker Series, With First Program on Tuesday**

This season's Olympic National Park Perspectives series will address topics ranging from bees to river restoration to sea star wasting syndrome to the state of Blue Glacier.

<http://www.peninsuladailynews.com/article/20141117/news/311179971/olympic-national-park-begins-its-monthly-speaker-series-with-first>

### **Study Finds Virus Likely Cause Of Sea Star Wasting**

Scientists have isolated a virus they are pretty sure is causing the mysterious disease that has killed millions of sea stars on the Pacific Coast by melting them into slime and piles of tiny bones.

<http://www.kplu.org/post/study-finds-virus-likely-cause-sea-star-wasting>

### **Scientists Solve Mystery of West Coast Starfish Die-Off**

After months of research, scientists have identified the pathogen that has been killing starfish by the millions along the Pacific Shores of North America. It is a virus different from other viruses infecting marine organisms, dubbed "sea star associated densovirus."

<http://kuow.org/post/scientists-solve-mystery-west-coast-starfish-die>

### **Scientists Find New Coral Species off California**

Scientists discovered a new species of deep-sea coral in underwater canyons off the Northern California coast, found using small submersibles, NOAA announced.

[http://www.sci-tech-today.com/story.xhtml?story\\_id=031001QLGF56](http://www.sci-tech-today.com/story.xhtml?story_id=031001QLGF56)

### **California Orcas Drawn to Salish Sea by Thriving Seal Population, Fisheries Scientist Says**

Federal fisheries department said sightings this fall in the Salish Sea of killer whales more commonly found off California are thought to be part of a greater trend associated with an increased population of harbour seals as prey.

<http://www.vancouversun.com/technology/California+orcas+drawn+Salish+thriving+seal+population/10403678/story.html>

### **New Tool Helps Track Changes in Ocean Chemistry; Benefit Seen for Shellfish Growers**

A new research tool launched last week by the National Oceanic and Atmospheric Administration is allowing scientists to better track changes in ocean chemistry along the U.S. West Coast.

<http://www.peninsuladailynews.com/article/20141124/news/311249990/new-tool-helps-track-changes-in-ocean-chemistry-benefit-seen-for>

### **Sequim Resident at Fore of Peninsula Coastal Cleanups Gets Firsthand Look at Tsunami Devastation in Japan**

After spending 18 months organizing the cleanup of tsunami and marine debris from Clallam County beaches, a Washington Coast Savers coordinator recently returned from a visit to the devastated Japanese coastal communities where much of the rubble originated.

<http://www.peninsuladailynews.com/article/20141125/news/311259997/sequim-resident-at-fore-of-peninsula-coastal-cleanups-gets-firsthand>

### **Guest Column: A Hidden Gem on Olympic Peninsula**

Most Americans know plenty about our national parks and probably have visited several of them. Lesser known are the nation's 14 federally protected marine protected areas in the National Marine Sanctuary System.

<http://www.sequimgazette.com/opinion/284684041.html>

### **Endangered Puget Sound Orca Died While Pregnant, Scientists Learn**

Scientists determined this weekend that the dead orca that washed up on Vancouver Island last Thursday was pregnant when she died.

<http://kuow.org/post/endangered-puget-sound-orca-died-while-pregnant-scientists-learn>

### **Another Orca Death: Southern Resident Killer Whales Down to 77**

Another death reported tonight among the endangered orcas whose home is Puget Sound and adjacent waters. The orca found dead in British Columbia is identified as a member of J Pod, J32, known as "Rhapsody," an 18-year-old female.

<http://westseattleblog.com/2014/12/another-orca-death-southern-resident-killer-whales-down-to-77/>

### **7 Teeth Sawed off From Puget Sound Orca Found Dead in B.C.**

The endangered Puget Sound orca found dead on Vancouver Island in Canada may become the focus of a poaching investigation.

<http://www.komonews.com/news/local/7-teeth-sawed-off-from-orca-found-dead-in-Vancouver-Island-285032011.html>

### **More Japanese Tsunami Debris Will Wash Up This Winter On Northwest Shores, Scientists Predict**

Winter storms off the Oregon and Washington coastlines are expected to bring a new wave of debris from the 2011 tsunami in Japan. Scientists say objects are already washing ashore – with potentially invasive organisms riding along.

<http://kuow.org/post/more-japanese-tsunami-debris-will-wash-winter-northwest-shores-scientists-predict>

### **Corpse of Killer Whale Recovered; Failed Pregnancy Likely Cause of Death**

The cause of death has yet to be determined, but the demise of yet another member of the Southern resident killer whales marks a new low point for a population that shows little, if any, sign of recovery.

<http://www.islandsweekly.com/news/285035461.html>

### **Ancient Artifacts on Display are Part of Former Village of Tse-whit-zen**

One thousand etched stones, once buried below the place that became Port Angeles, tell the story of the Klallam people.

<http://www.yakimaherald.com/news/livenews/2731559-8/ancient-artifacts-on-display-are-part-of-former>

### **Pregnant Orca Found Dead off B.C. Coast Was Starved, Carrying Dead Calf**

Rhapsody's blubber layer was relatively thin and dry of oil, findings that point to extended malnourishment.

<http://www.ctvnews.ca/canada/pregnant-orca-found-dead-off-b-c-coast-was-starved-carrying-dead-calf-1.2146512#ixzz3Lz2Ta7M2>



### Ten Years After ESA Listing, Killer Whale Numbers Falling

Puget Sound's already small killer-whale population has declined in the decade since it was protected under the Endangered Species Act. Some experts view the death this month of a pregnant female orca as an alarm bell for the region's southern residents. Ten years after ESA listing, killer whale numbers falling.

[http://seattletimes.com/html/localnews/2025279547\\_killerwhalesxml.html](http://seattletimes.com/html/localnews/2025279547_killerwhalesxml.html)

### Storms Bring Massive Amounts of Elwha River Sediment Downstream

The series of storms that drenched the North Olympic Peninsula earlier this month changed the course of the Elwha River, carried away entire sections of sediment islands and moved the river closer to its original channel in some places, said Andy Ritchie, Elwha restoration project hydrologist.

<http://www.peninsuladailynews.com/article/20141223/NEWS/312239990/storms-bring-massive-amounts-of-elwha-river-sediment-downstream>

### Navy Seeks Public Comment on Sonar Use in Training with Supplement to Environmental Impact Statement

The U.S. Navy has completed a supplement to an environmental impact statement that examines the proposed increased use of sonar in the Northwest Training and Testing Area.

<http://www.peninsuladailynews.com/article/20141224/news/312249984/navy-seeks-public-comment-on-sonar-use-in-training-with-supplement-to>

### New Calf For Puget Sound's Endangered Orcas Arrives Just In Time For New Year's

Orca experts with the Center for Whale Research spotted a very young calf cruising along in its mama's slip stream near Pender Island in British Columbia on Tuesday.

<http://kuow.org/post/new-calf-puget-sounds-endangered-orcas-arrives-just-time-new-years>

### Newborn Killer Whale a Good Sign for Imperiled Pod

A newborn orca in the endangered pod that frequents Puget Sound is an encouraging sign following the death earlier this month of a pregnant killer whale from the same group.

<http://www.sfgate.com/news/science/article/Orcas-birth-encouraging-news-for-Puget-Sound-pod-5987723.php>

## OCNMS ONLINE

Visit our website at <http://olympiccoast.noaa.gov/>

Follow us on Facebook and Twitter!

<https://www.facebook.com/usolympiccoastgov>

*Please take a few moments to peruse the site. Your feedback is greatly appreciated.*

*Comments and suggestions can be sent to [Jacqueline.Laverdure@noaa.gov](mailto:Jacqueline.Laverdure@noaa.gov).*

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## FUN, OCEAN-RELATED WEBSITES

National Oceanic & Atmospheric Administration

<http://www.noaa.gov/>

NOAA Ocean Explorer

<http://oceanexplorer.noaa.gov/>

National Ocean Service

<http://www.nos.noaa.gov/>

National Data Buoy Center

<http://www.ndbc.noaa.gov/rmd.shtml>

Office of National Marine Sanctuaries

<http://www.sanctuaries.nos.noaa.gov/>

Washington's Ocean Resources

<http://www.ecy.wa.gov/programs/sea/ocean/index.html>

NOAA Marine Debris Program

<http://marinedebris.noaa.gov/>

CoastWatch – West Coast Regional Node

<http://coastwatch.pfel.noaa.gov/>

NOAA Online Media Library

<http://sanctuaries.noaa.gov/photos>

Northwest Association of Networked Ocean Observing Systems

<http://www.nanoos.org/>

Encyclopedia of National Marine Sanctuaries

<http://www8.nos.noaa.gov/onms/park/>

NOAA's Pacific Marine Environmental Laboratory

<http://www.pmel.noaa.gov/>

## Learn More about Your Sanctuary

The Sanctuary Office Report is produced bi-monthly by the Olympic Coast National Marine Sanctuary in conjunction with Sanctuary Advisory Council meetings. To learn more about the Sanctuary please visit our website at <http://www.olympiccoast.noaa.gov>.

To learn more about the Sanctuary Advisory Council please visit:  
[http://olympiccoast.noaa.gov/involved/sac/sac\\_welcome.html](http://olympiccoast.noaa.gov/involved/sac/sac_welcome.html)

### Office of National Marine Sanctuaries (ONMS)

The Olympic Coast National Marine Sanctuary is one of 14 marine protected areas in the National Marine Sanctuary System encompassing more than 176,000 square miles of marine and Great Lakes waters from Washington State to the Florida Keys and from Lake Huron to American Samoa. The system includes 13 national marine sanctuaries and the Papahānaumokuākea Marine National Monument. Visit the ONMS website at: <http://www.sanctuaries.nos.noaa.gov/>

## Get Involved!

To learn how to get involved in the Sanctuary visit:  
<http://olympiccoast.noaa.gov/involved/welcome.html>

## OCNMS Staff

**Carol Bernthal**– Superintendent

**George Galasso**– Deputy Superintendent for Policy & Programs

**Kevin Grant** – Deputy Superintendent for Operations & Administration

**Liam Antrim** – Research Coordinator

**Jennifer Bright**– Research Technician

**Justin Ellis**– NOAA Corps Officer, Marine Operations

**Eric Evans**– IT Consultant

**Carey Floyd**– Graphic and Web Designer

**Nicole Harris**– Education Specialist

**Kathy Hough**– Survey Technician

**Norma Klein**– Office Administrator

**Karlyn Langjahr**– AC Coordinator & Discovery Center Manager

**Jacqueline Laverdure**–Acting Education and Outreach Coordinator

**Danny Palmer**– Education and Stewardship Specialist

**Heidi Pedersen**– Citizen Science Coordinator

**Robert Rountree**– Visitor Services Specialist

**Nancy Wright**– Geographer

## Contact Information Olympic Coast National Marine Sanctuary

115 East Railroad Ave., Suite 301  
Port Angeles, WA 98362  
Phone (360) 457-6622  
Fax (360) 457-8496

